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EXAMINER

PRATT, HELEN F

ART UNIT	PAPER NUMBER
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1761

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/155,740
Filing Date: February 27, 1998
Appellant(s): LEWIS ET AL.

Joseph B. Lerch
For Appellant

EXAMINER'S ANSWER

MAILED

AUG X 4 2004

GROUP 1700

This is in response to the appeal brief filed 6-24-04.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-19 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

1,004,522	SAVAGE	9-1965
3,741,106	REZNIK	7-1973
4,917,910	HSEIH et al.	4-1990

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reznik, 3,741,106 in view of Hsieh et al. 4,917,910 and Savage (GB 1,004,522).

Reznik discloses a process of hydrating dried fruit such as dates using rollers (col. 2, lines 63-70 and col. 3, lines 5-29). The moisture content of the dates is seen to have been between 5 and 40% because the reference discloses that the fruit has a low moisture content, and then is hydrated to between 25 and 45% (col. 1, lines 29-41). Reznik et al. disclose as in step b disrupting the structure of the fruit by fissuring (abstract and col. 3, lines 5-29). The fruit is reacted with water, which can contain a solute such as a preservative (sodium benzoate). The water - soluble agent protects the fruit from spoiling during storage (col. 2, lines 35-62 and 63-70).

Claims 1-3 differ from the reference in the step of reacting the fruit with water activity controlling solutes. Hsieh et al. disclose that it is known to infuse dried raisins with A_w (water activity) controlling solutes by tumbling the raisins in a humectant (A_w controlling solute) (abstract and col. 8, lines 63-70). The tumbling action on the raisin is also seen to disrupt the structure of the fruit allowing for further uptake of the A_w controlling solute because the process allows for the uptake of the solute (glycerol) within a few days. Also, it is noted that further evidence that tumbling disrupts the structure of the fruit is that if too many raisins are tumbled they will be reduced to a

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"pulpy mass" (col. 13, lines 53-55). The fruits are seen to have been at the required moisture content and A_w so that further drying is not necessary.

Also, Savage '522 discloses that it is known to first puncture the skin of mature pulses and impregnate with a hydrophilic solution before drying (page 1, lines 65-74 and page 4, lines 2-70). In addition, the specification discloses on pages 1 and 2 that it is known to make food stable at various moisture levels from 15-50% and at a A_w of from .60 to .085 (page 1, lines 25-38 and page 2, lines 20-29).

Therefore, it would have been obvious to one of ordinary skill in the art to substitute the glycerol (solute) of Hsieh et al. or the impregnation solution of Salvage '522 as the A_w controlling solute in the process of Reznik for their known functions of decreasing the water activity of the fruit which also causes preservation as do the solutes of Reznik and to fissure as disclosed by Reznik and Savage and to dry to a particular A_w as shown by Savage.

Claim 4 further requires that the uptake of solute is a particular amount and claims 5-8 that the product has a particular dimension and claim 9 that the product is produced in a time of 30 minutes to 4 hours. However, it is seen that it would have been within the skill of the ordinary worker to roll a fruit piece as shown by Reznik so that the fruit will take in a particular amount of solute because obviously the more fissures the more solute can be taken in by the fruit. Certainly, particular sizes are dependent on the product desired and nothing new is seen in this. Reznik discloses that the distance between the squeeze rollers is correlated with the size of the fruit units (col. 3, lines 39-35). As the reference to Reznik discloses that it is known to vary the

gap of the roller, it would have been within the skill of the ordinary worker to vary the roller gap as claimed. Nothing is seen that the product could not be made in 4 hours as the process limitations have been shown in combination and Savage discloses treating perforated pulses up to 40 plus minutes (page 2, lines 35-70, chart lines 40-51).

Therefore, it would have been obvious to roll to a particular degree in order to increase the amount of solute because more fissures allow a higher uptake of solutes.

The limitations of claims 10-17 have been discussed above and are obvious for those reasons.

Claims 18 and 19 require particular Aw's. Hsieh et al. disclose that fruits with Aw's of .30 are known and this depends on the level of humectant (abstract). Therefore, it would have been obvious to use known Aw's in the process of Reznik because they are also to infusing fruits with preservatives, which is also the function of humectants as disclosed by Hsieh et al., and is also the function of sucrose or glycerol as disclosed by Savage.

(11) Response to Argument

Appellants argue that the Reznik patent is not to lowering the Aw of dried fruit, but to increasing the Aw by addition of water via a rehydration process and increasing the moisture content is done by fissuring the date to allow vacuum impregnation with water. However, Reznik was relied on to teach that it is known to fissure a date in order to allow solutes to enter the dried date. Hsieh and Savage were used to show that it is known to increase the Aw of fruits by the addition of solutes. Hsieh et al. in particular,

disclose that dry raisins, which have been mechanically treated by tumbling increases the rate of absorption of glycerol (a solute).

Appellants refer to the Reid Declaration and paragraph 9 in particularly to show that Reznik does not produce a product with long-term stability. However, as above, it is known to stabilize fruit by the use of humectants as in the use of glycerol in Hsieh and sugar or glycerol in Savage. Certainly, if one can fissure to allow increased uptake of solutes, fissuring will also allow increased uptake of other ingredients such as glycerol and sugar, which are both Aw lowering ingredients, particularly as Hsieh et al, does suggest some fissuring due to the mechanical treatment by tumbling of the raisins and Savage also punctures pulses to increase the amount of solutes taken into the pulse.

Even though Dr. Reid in his Declaration observes that the use of rollers is to crack the date skins, to allow for rapid rehydration, this does not preclude using the rehydration solutions from carrying other ingredients such as Aw lowering ingredients. Savage also discloses that it is known to fissure in order to add Aw lowering ingredients. Hsieh et al. also mechanically treats raisins in order to ease the addition of solutes (glycerol) into the raisins. As to Reznik using a vacuum to draw water into the dates, this limitation is not excluded from the claims. Furthermore, the reference is not used for this feature, but to show that it is known to puncture skins in order to allow solutes to enter the fruit.

It is not seen that the Reznik process is only to drawing water into the dates. The dates have already been punctured and as shown by Savage will take in water or

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hydrophilic materials due to this puncturing (page 1, lines 65-74 and page 3, lines 50-76).

Appellants argue that the Examiner maintains that the claims of the invention do not exclude the vacuum impregnation water step of Reznik because of steps c and d (b and c) which require "solute infusing into the fruit". However, Reznik is relied on to show fissuring. For the sake of argument, infusion is a gentle procedure and that even dehydration can occur due to whatever solute is infused. However, it is not seen how infusion is different than vacuum impregnation because no rate of infusion is claimed. In addition, no dehydration is claimed and Appellants' specification discloses that "solute uptake can be readily determined by established methods in the art". The specification teaches that it is possible to avoid leaching of natural solutes from the fruit (i. e. dehydration) (page 7, lines 19-21 and lines 26-30).

As to the McGraw-Hill dictionary definition, the above comments pertain to the differences between vacuum infusion and impregnation.

It is not seen how modifying Reznik would change its principle mode of operation because Reznik is relied on to show fissuring and Hsieh and Savage to show impregnation.

Appellants state as to British patent 1004522 (Savage) that dried pulses peas) of high maturity are impregnated with a hydrophilic material and in '175 they are perforated by pricking. British patent '175 is no longer used in the rejection.

Appellants argue that the Examiner has confused fresh pulses with the dried product of the invention. However, the reasons the peas (pulses) are perforated is that

the peas are mature and do not rehydrate easily. One would assume that the skin of the pulse is tough or it would not need perforating in order to rehydrate it, just as the skin of a dried date is hard and needs to be fissured in order to rehydrate it. As to the Reid Declaration comments in this regard, Dr. Reid states that the British patent's process has a different purpose of rapidity of rehydration of a dried product. However, this does not remove the fact that it is known to perforate a tough outer skin in order to add solutes to the fruit or vegetable.

Appellants argue that the Hsieh et al. patent is for infusing high levels of humectants into raisins and that Dr. Reid (page 10) states that the Hsieh patent differs from the claimed invention in the rate of infusion of the humectant. However, the rate of infusion depends on such factor as degree of fissuring, concentration of solutes, temperatures, pH which are all within the skill of the ordinary worker to vary in order to produce a particular rate of infusion. The combined references disclose that fissuring is known and that it is known to use various solutes to infuse.

Appellants argue as to the combination of references that the technology found in Reznik and the British patent (Savage) are different. This is not seen as both references disclose impregnation by fissuring tough skins. In addition it is seen that even though the end products of these references are different that it is still known to achieve more efficient impregnation by puncturing or pricking skins.

Appellants argue as to the combination of Reznik with Hsieh that the references aren't combinable. In particular, that Hsieh lowers the A_w by infusing with a humectant and Reznik increases it by vacuum impregnation. However, impregnation of

a liquid into a fruit is shown by both references. The particular degree of Aw is not found in claims 1 and 2. If one can add solutes to water to infuse as in Reznik, then particular solutes can also be infused as shown by Hsieh et al. and Savage.

Appellants argue as to the Reid Declaration that the purpose of the combined references was different, therefore there would be no reason to combine them nor would there be motivation. This is not seen due to the reasons set forth above.

It is not seen that the Examiner is using hindsight reconstruction because the combined references clearly teach that the claimed method of infusing is known.

It is not seen how there is no suggestion to combine the references when all the steps are disclosed as discussed above. One would look to Reznik to see that puncturing of hard skins in order to more easily penetrate the skin of a date was known, to Hsieh et al. and Savage and the prior art to show that infusion of fruit with Aw reducing solutes was known. Surely one would realize that fissuring a date or pulse would enhance the uptake of solutes osmotically as shown by the combined references.

As to Appellants grouping of the claims, Appellants argue as to Group 1, claim 1 that the references do not disclose "disrupting the structure of the fruit by a mechanical or physical process producing cracks on the surface and or edges of the fruit whilst maintaining integrity thereof". This is not seen as Reznik specifically disrupts the fruit skin structure by fissuring using rollers (abstract).

As to Group II: Claims 2-5, 9-13 and 17 are not seen to be patentable for the reasons given above.

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As to Group III: The claims in Group III define a preferred relationship between the size of the fruit and spacing between the rollers used to disrupt the structure of the fruit. This is not seen due to the reasons listed in the art rejection.

As to Group IV claims 18 and 19 are said to require particular Aw's. Claims 1 and 2 do not require particular Aw's. Hsieh discloses raisins with a water activity of .4, which is within the claimed range (col. 7, lines 45-49). The combination rejection for these claims is found above.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



**HELEN PRATT
PRIMARY EXAMINER**

August 3, 2004

Conferees

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